

Semester III (Honours) Internal Examination 2021

Subject : Chemistry

Paper Code : CEMHT6

Full Marks : 10

Time : 30 mins

Date : 11/03/21

Answer all questions

2×5 = 10

1. He_2 does not exist but He_2^+ exist . Explain why ?
2. Arrange the following with increasing bond order --
 O_2^- , O_2^+ , O_2^{2-} , O_2
and which one has maximum bond strength ?
3. The central atom of CH_4 , NH_3 , H_2O involves sp^3 hybridisation .But the bond angles in these molecules are 109.5° , 107° and 104.5° respectively . Account for this .
4. Write down the difference between Fission and Spallation reaction .
5. The hardness of MgO is higher than CaO . Explain from the concept of lattice energy .

